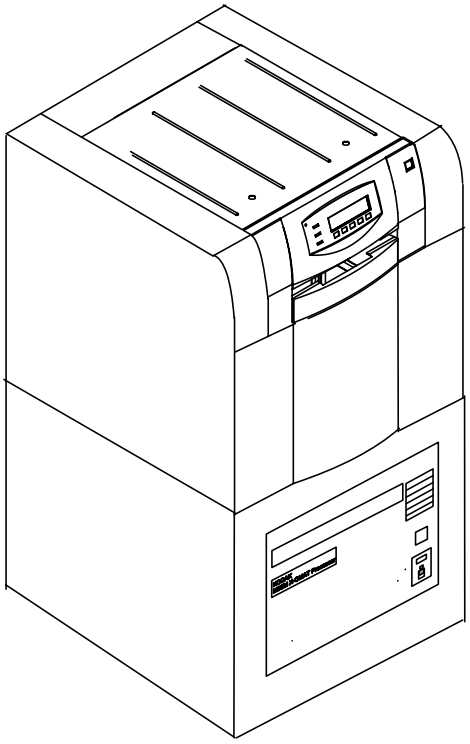
Publication No. II 3477-G
8/98

INSTALLATION INSTRUCTIONS

for the

KODAK Miniloader 2000P M35-M PROCESSOR READY KIT

CAT. Number 7201171



© KODAK AG STUTTGART, 1998

PLEASE NOTE

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Kodak prior to publication. No patent license is granted by this information. Kodak reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

Table of Contents

PACKING LIST **1-2**

INTRODUCTION **1-3**

FUNCTIONAL DESCRIPTION 1-3

INSTALLATION **1-6**

PACKING LIST

The INSTALLATION KIT consists of		
INSTALLATION INSTRUCTIONS	II 3477-G	1
PCB with MOUNTING HARDWARE and HARNESS short	9314016	1
HARNESS long with SENSOR B9	9318507	1
WIRE TIE 100 mm	6081850	9
WIRE TIE 200 mm	5554503	1
SCREW 6-32 UNC - 2A 3/8	—-	2
SCREW 8-32 UNC - 2B 1/2	8273250	1
NUT	8031576	1
CABLE CLAMP	9318772	1
OPERATOR GUIDE (English)	—-	1

INTRODUCTION

The KODAK Miniloader 2000P M35-M PROCESSOR READY KIT is an accessory for the ML2000P with Serial Numbers higher 5117 only. It can not be installed into Miniloaders with Serial Numbers lower than 5118. For the sake of simplicity this Kit is called in this publication READY KIT. It monitors if the PROCESSOR M35-M is switched on and if the DEVELOPER has reached the set temperature.

FUNCTIONAL DESCRIPTION

The READY KIT consists of a PCB with MOUNTING HARDWARE and of 2 HARNESSES. As there is no spare connector at the rear of the PROCESSOR STAND, the D-SUB CONNECTOR of SENSOR B9 has to be used. To avoid soldering, the long HARNESS is equipped on one end with the D-SUB CONNECTOR and with the SENSOR B9. The other end is plugged into the 4 PIN CONNECTOR of the PROCESSOR READY PCB.

The 3 PIN CONNECTOR of the short HARNESS is plugged into the 3 PIN CONNECTOR of the PCB.

Note

For details see the diagrams on the next 2 pages.

When the PROCESSOR is switched on, PIN U2-3 (M35-M) goes to +12V. This causes the top part of U1 (Proc. Ready Kit) to conduct. PIN U1-7 goes LOW. This LOW is inverted twice by U2 and U3. CPRON (PROCESSOR ON) goes LOW.

As long as the DEVELOPER has not reached the set temperature, PIN U2-4 (M35-M) is LOW. This LOW enables TRANSISTOR Q1 and the lower part of U1 is conducting. PIN U1-5 goes LOW. This LOW is inverted 3 times and CPRDH is HIGH. When the set temperature is reached, PIN U2-4 (M35-M) goes HIGH. CPRDH goes LOW.

STATUS	MESSAGE ML2000P DISPLAY
CPRON = HIGH	PROCESSOR NOT READY
CPRDH = HIGH	DEVELOPER UNDER SET TEMPERATURE

CPRDH is monitored every 10 seconds after POWER UP. As soon as the DEVELOPER has reached the set temperature, the message is switched off and the signal is no longer monitored.

As the READY KIT is an accessory, it must be enabled on PCB A8 with SWITCH S2-left.

Note

CPRON and CPRDH cannot be monitored with the SENSOR TEST of the SERVICE SOFTWARE up to Version 1.11. For them a DVM is required.

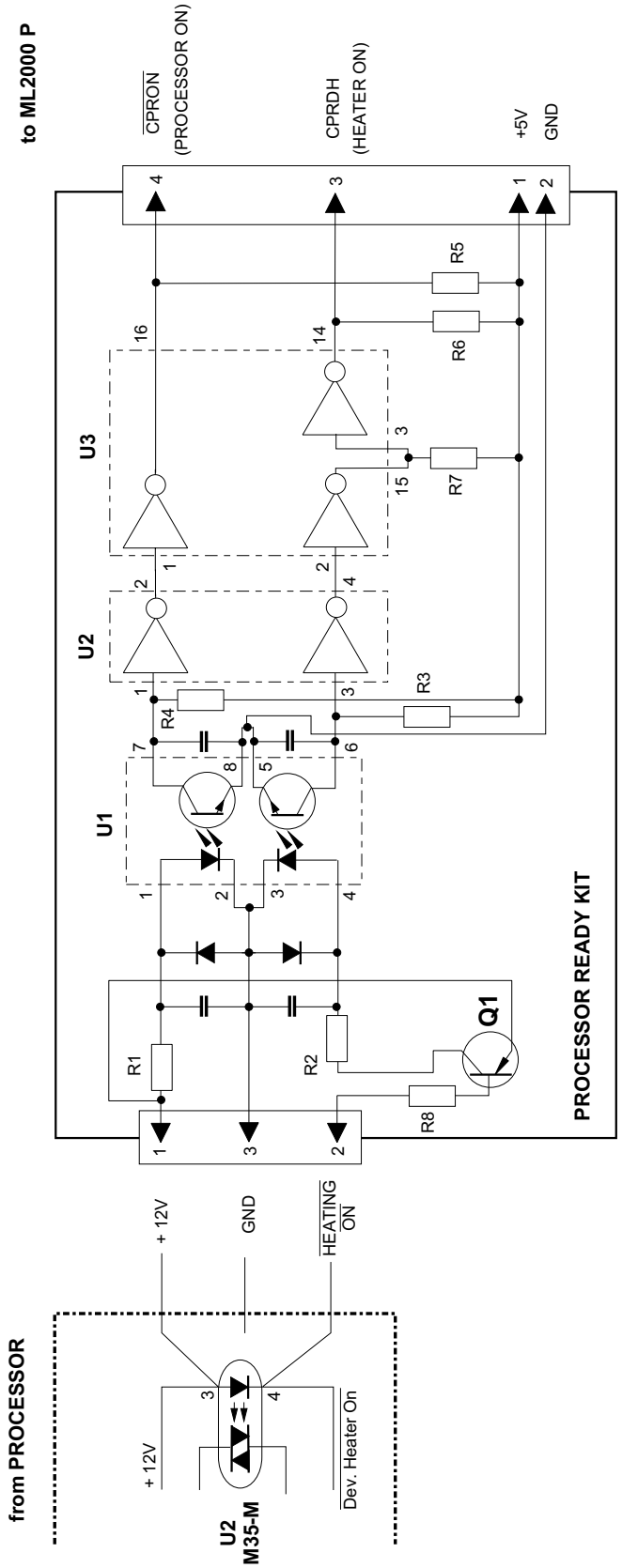

to ML2000 P
CPRON (PROCESSOR ON)
CPRDH (HEATER ON)
+5V
GND
R5
R6
R7
R3
R4
R1
R2
R8
Q1
U1
U2
U3
PROCESSOR READY KIT
from PROCESSOR
+ 12V
GND
HEATING ON
+ 12V
Dev. Heater On
U2
M35-M

figure 1-1

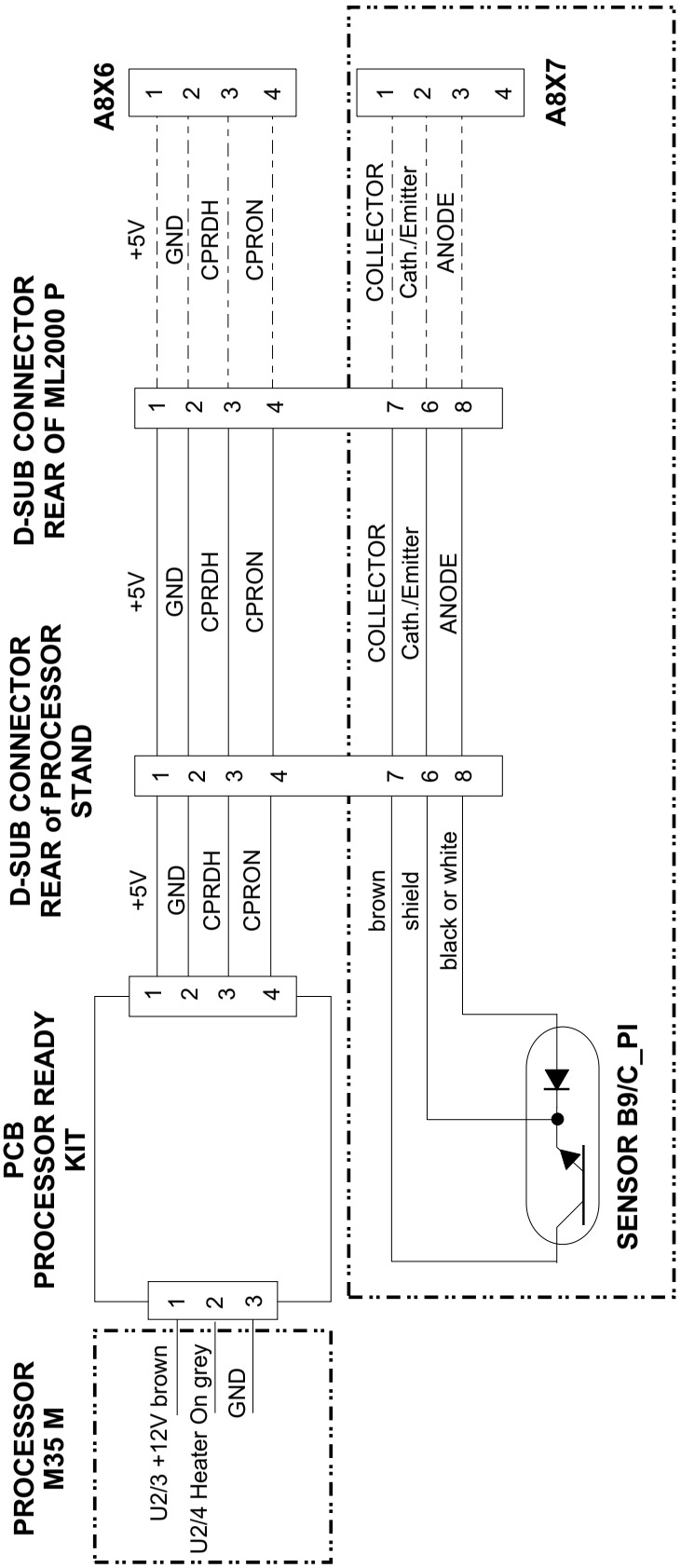

PROCESSOR
M35 M
U2/3 +12V brown
U2/4 Heater On grey
GND
1
2
3
PCB
PROCESSOR READY
KIT
D-SUB CONNECTOR
REAR of PROCESSOR
STAND
+5V
GND
CPRDH
CPRON
1
2
3
4
D-SUB CONNECTOR
REAR OF ML2000 P
A8X6
A8X7
COLLECTOR
Cath./Emitter
ANODE
7
6
8
brown
shield
black or white
SENSOR B9/C_PI

figure 1-2

INSTALLATION

1. Switch off the ML2000P and the PROCESSOR M35-M and disconnect them from the Mains.

2. Roll off the ML2000P from the PROCESSOR.

3. Take out SENSOR B9, its harness and the D-SUB CONNECTOR from the STAND. To avoid SOLDERING, a new SENSOR B9 is part of the long READY KIT HARNESS.

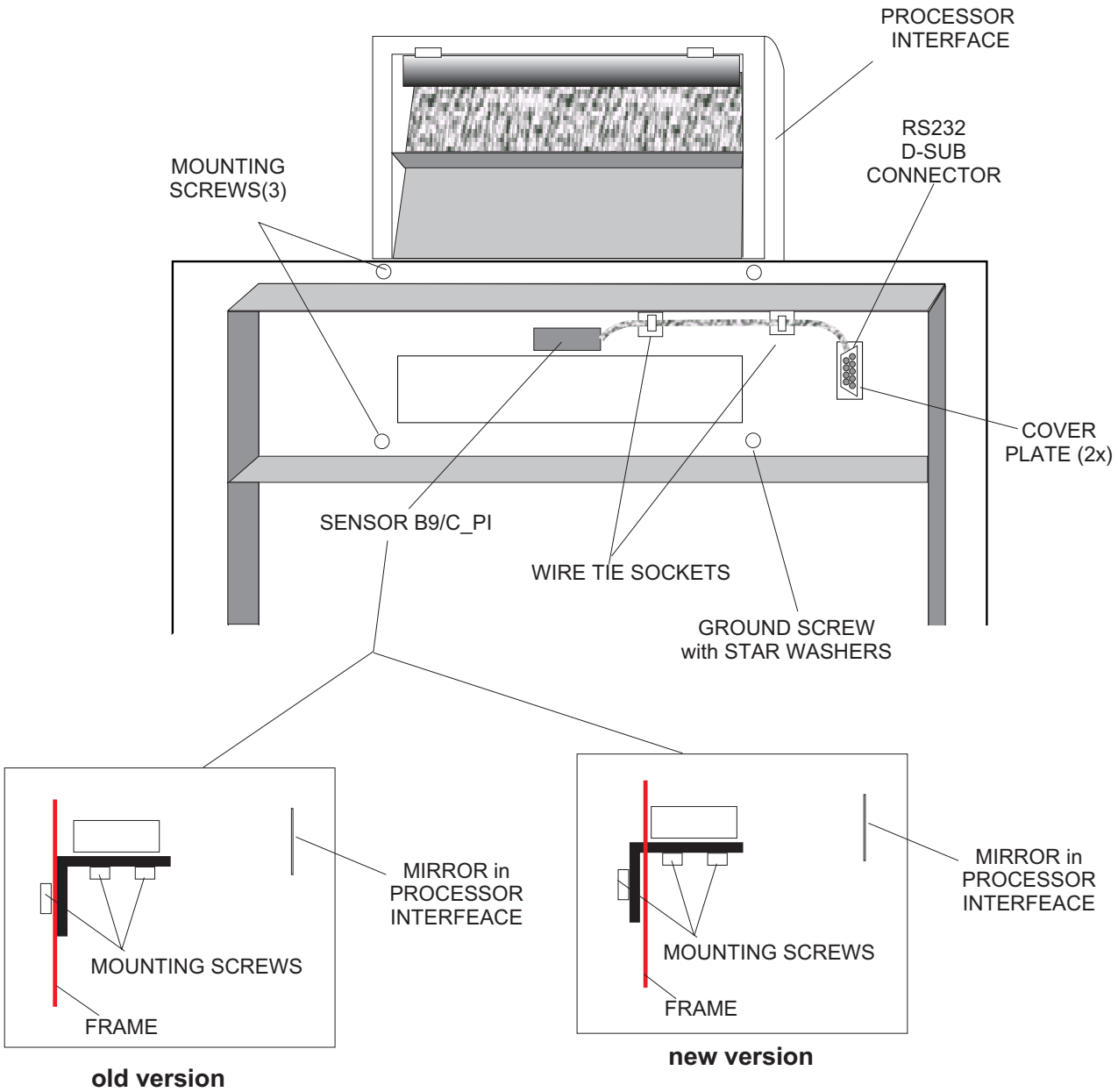


figure 1-3

4. Open the PROCESSOR ELECTRONIC BOX and take out the MOUNTING SCREWS of RELAY K1 (RUN/STANDBY). Discard these SCREWS.

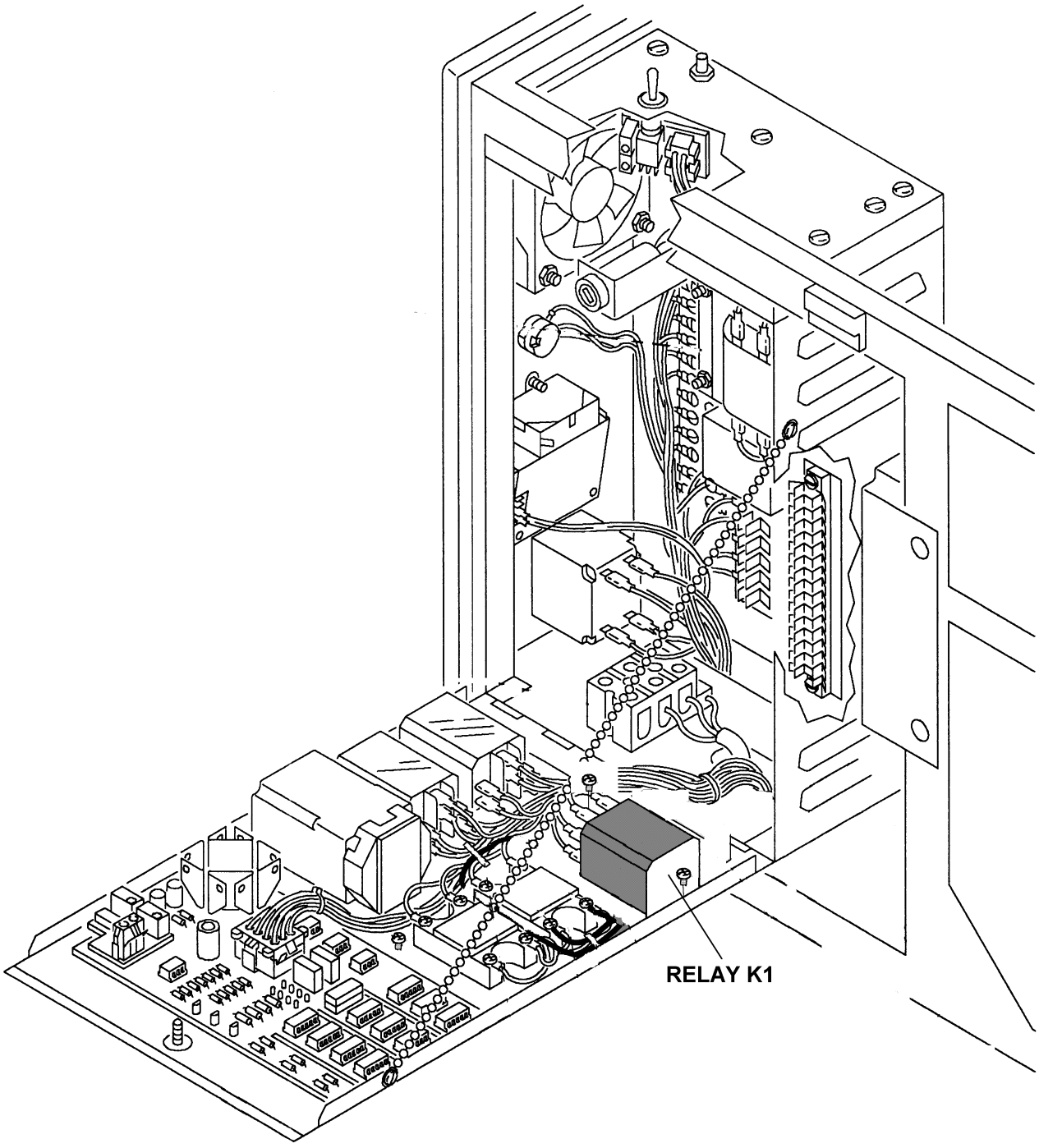


figure 1-4

5. Plug in the FLAT CONNECTOR from the long HARNESS PROCESSOR READY KIT to the PCB of the READY KIT. Then mount the PCB READY KIT together with the RELAY. Use the 2 MOUNTING SCREWS from the INSTALLATION KIT.

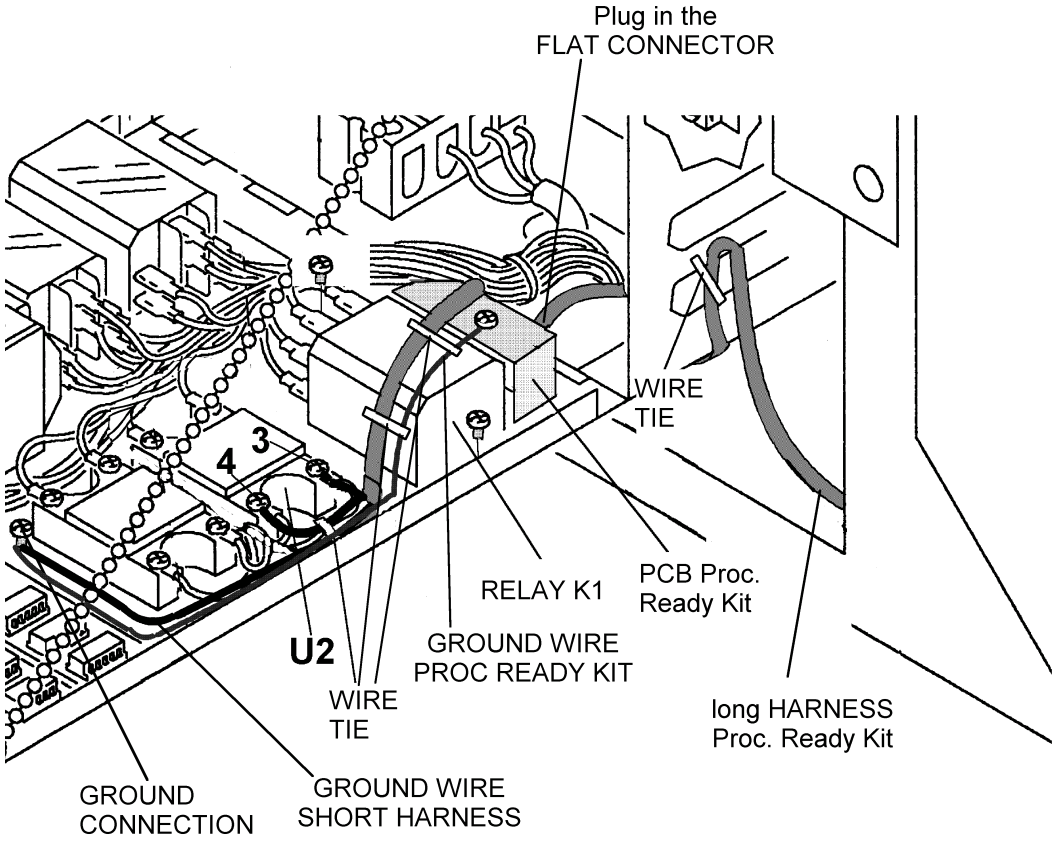


figure 1-5

6. Connect the brown wire of the short HARNESS to PIN 3 of U2 and the grey wire to PIN 4 of U2.

7. Connect the yellow/green wire of the short HARNESS and the yellow/green wire of the PROC. READY KIT to the GROUND CONNECTION.

8. Fix the wires with WIRE TIES as shown.

9. Route the long HARNESS PROCESSOR READY KIT through the ELECTRONIC BOX and fix it with a WIRE TIE as shown.

Caution

Due to safety regulations, there must be a gap of at least 15mm between the PROCESSOR HARNESS and the PROCESSOR READY KIT.

10. Mount the CABLE CLAMP from the KIT. Use the long SCREW and NUT from the KIT. Discard the existing SCREW. Fix the PROCESSOR HARNESS with the long WIRE TIE from the KIT to the CABLE CLAMP. Ensure that there is a gap of at least 15 mm between PROCESSOR HARNESS and the PROCESSOR READY KIT. Ensure that the EDGE PROTECTOR is on the READY KIT.

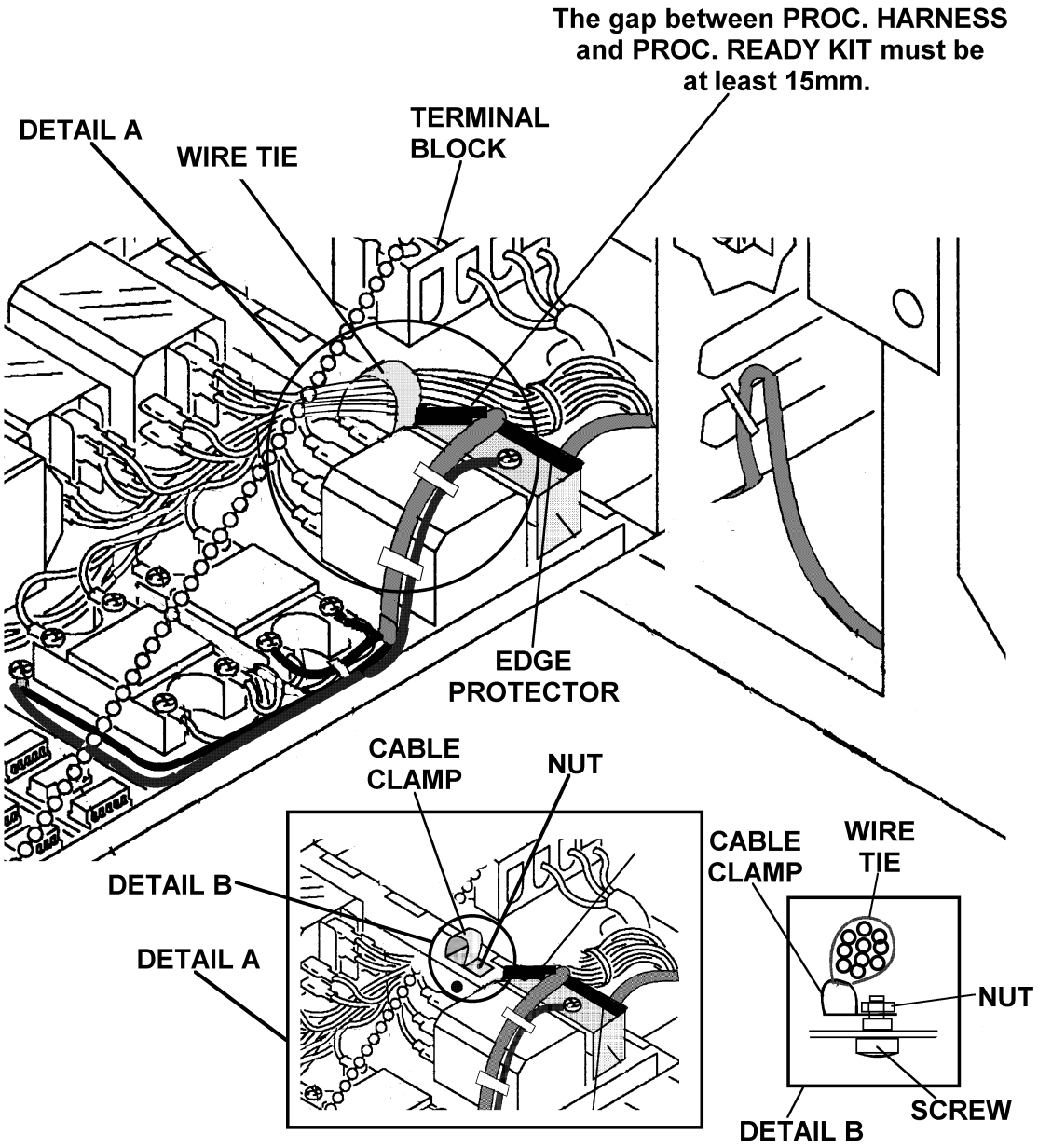


figure 1-6

11. Route the HARNESS through the PROCESSOR and mount the D-SUB CONNECTOR. Fix the HARNESS with WIRE TIES, so that it does not come in contact with moving parts.

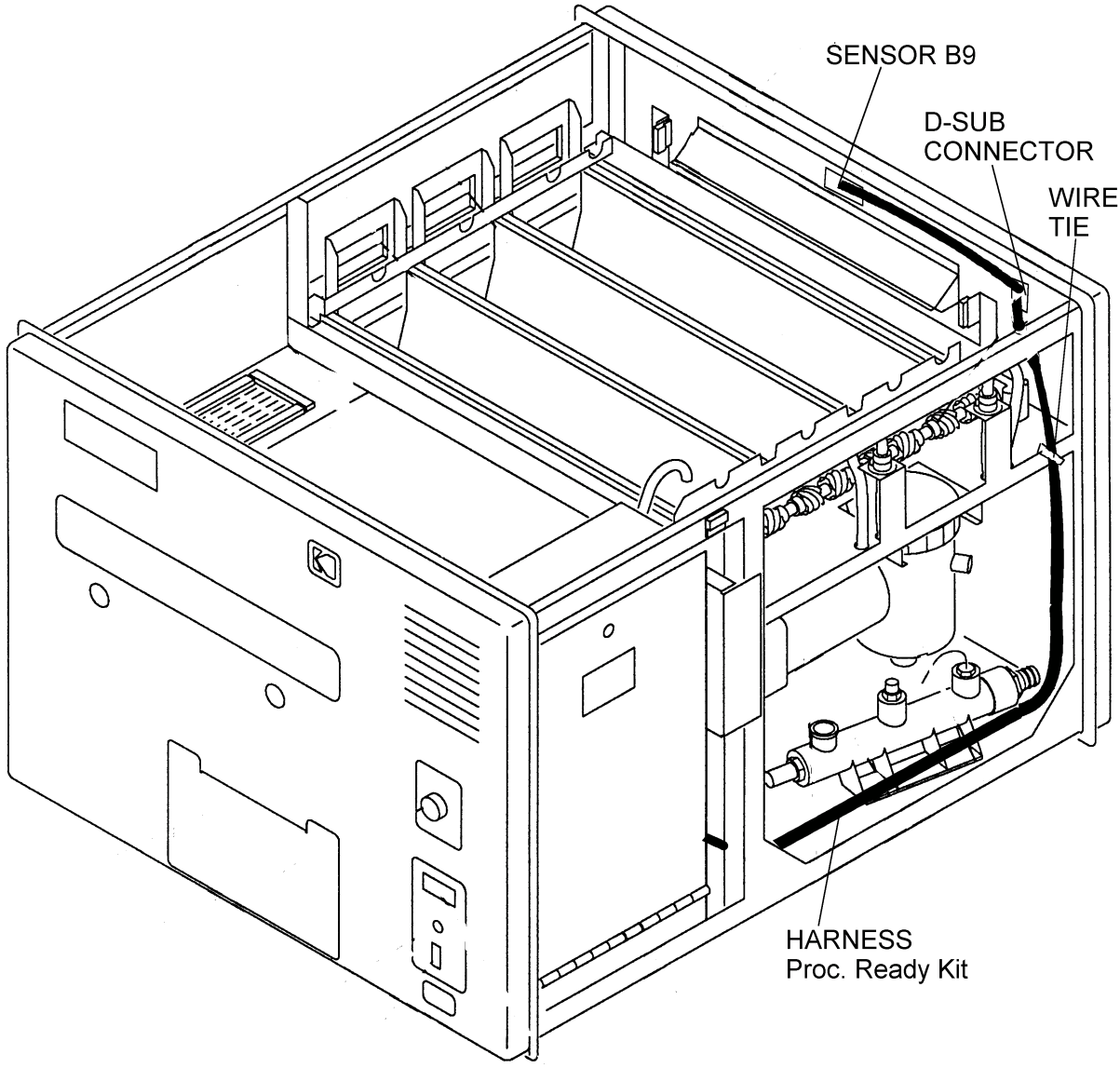


figure 1-7

12. Mount SENSOR B9. See figure 1-3. Plug in the RS232 DATA CABLE from PROCESSOR to ML2000P.

13. Set SWITCH S2-1 (left) on PCB A8 of ML2000P to ON.

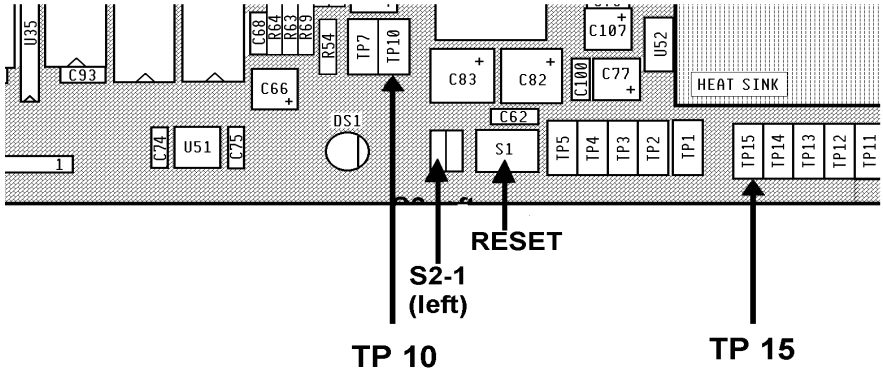


figure 1-8

14. Switch on the ML2000P (not the PROCESSOR!). The message

PROCESSOR NOT READY

should be displayed. The ERROR CODE for this message is C63.

15. Close the ELECTRONIC BOX. Ensure that no wires are pinched.

16. Roll the ML2000P fully over the PROCESSOR, latch the PROCESSOR INTERFACE, switch on the PROCESSOR and then press CLEAR at the ML2000P DISPLAY. The message

DEVELOPER UNDER SET TEMPERATURE

should be displayed. After the DEVELOPER has reached the set temperature, the message disappears.

17. Roll off the ML2000P from the PROCESSOR and while the DEVELOPER is warming up, do the adjustment of SENSOR B9.

18. ADJUSTMENT OF SENSOR B9/C_PI PROC. INTERFACE

PURPOSE:

SENSOR B9 is installed in the bottom of the PROCESSOR INTERFACE. It monitors the FILM when transported to the PROCESSOR. As this SENSOR is replaced during the installation of the READY KIT it has to be adjusted now.

- Open the FRONT DOOR of the ML2000P and pull out the ELECTRONIC BOX.
- Connect the red lead of the DVM to TP 15 on PCB A8. See figure 1-10.
- Connect the black lead of the DVM to TP 10 on PCB A8.
- Without a FILM in the PROCESSOR INTERFACE, adjust R100 on PCB A8 to <500mV. If this value cannot be reached, change the position of SENSOR B9/C_PI. See figure 1-9.
- Place a fresh FILM in the PROCESSOR INTERFACE. The voltage should now be > 3.5 V. If this value cannot be reached, take out the FILM and go back to the previous step. Adjust R100 closer to 500mV.

19. Roll the ML2000P fully over the PROCESSOR and ensure that the LATCHES at the PROCESSOR INTERFACE are closed correctly, otherwise the system is not light-tight, exposed FILMS would become fogged and the message **“PROCESSOR NOT IN PLACE”** will be displayed.

20. Check that all GROUND CABLES are properly connected.

21. Check that all PANELS/COVERS are mounted correctly.

22. Check the PROCESSOR for electrical safety according to your local and national safety regulations.

23. Inform the customer that in case of an emergency the ML2000P may be used by overriding the message “DEVELOPER UNDER SET TEMPERATURE”. To do so the SOFT KEYS **LOAD** or **OVERR** on the ML2000P DISPLAY must be pressed. However the customer must know that in this case the quality of the processed FILM may be low due to the low DEVELOPER temperature.

24. Give the OPERATOR GUIDE for the PROCESSOR READY KIT to the customer.

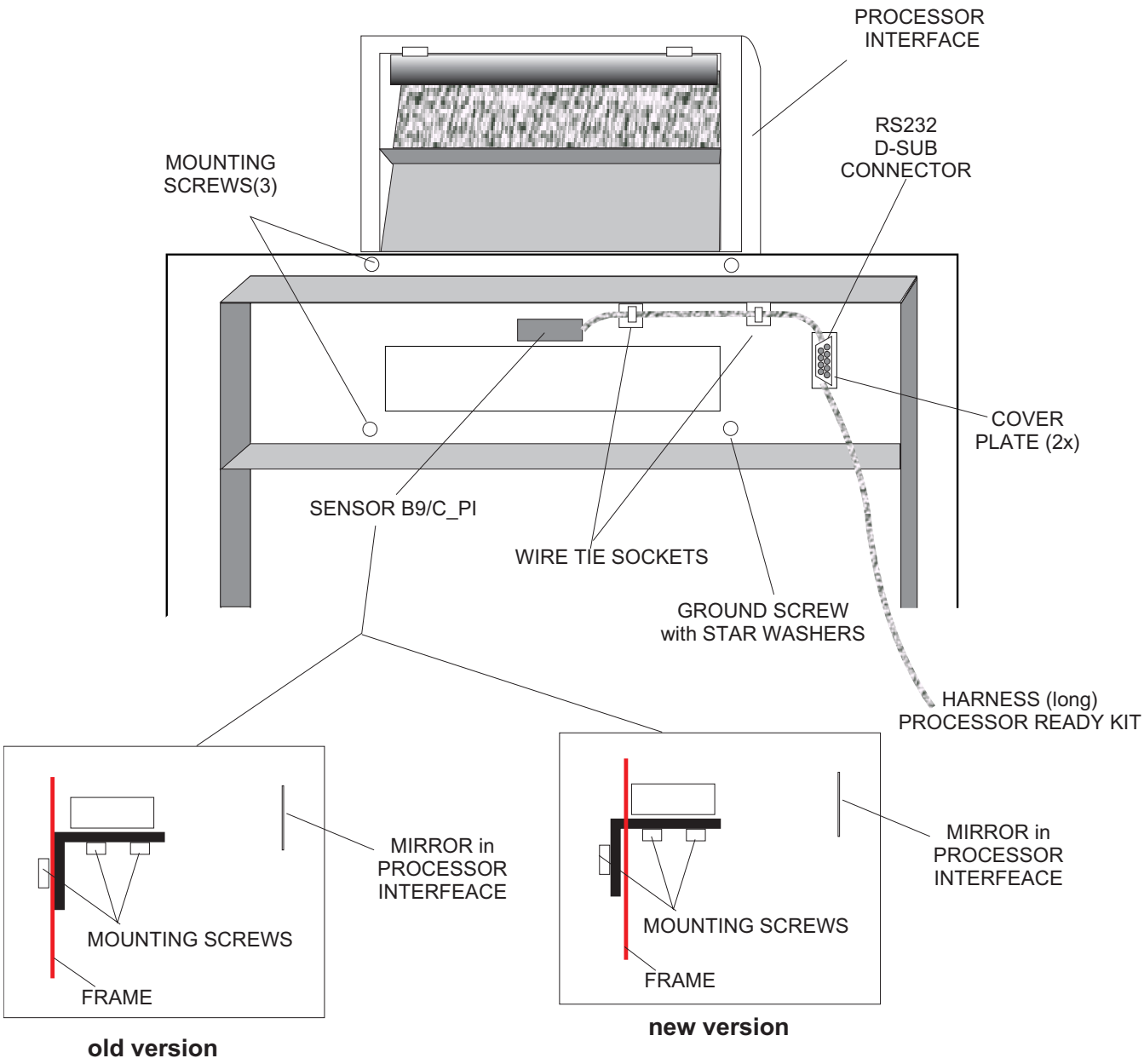

PROCESSOR
INTERFACE
RS232
D-SUB
CONNECTOR
MOUNTING
SCREWS(3)
COVER
PLATE (2x)
SENSOR B9/C_PI
WIRE TIE SOCKETS
GROUND SCREW
with STAR WASHERS
HARNESS (long)
PROCESSOR READY KIT
MIRROR in
PROCESSOR
INTERFEACE
MOUNTING SCREWS
FRAME
old version
MIRROR in
PROCESSOR
INTERFEACE
MOUNTING SCREWS
FRAME
new version

figure 1-9

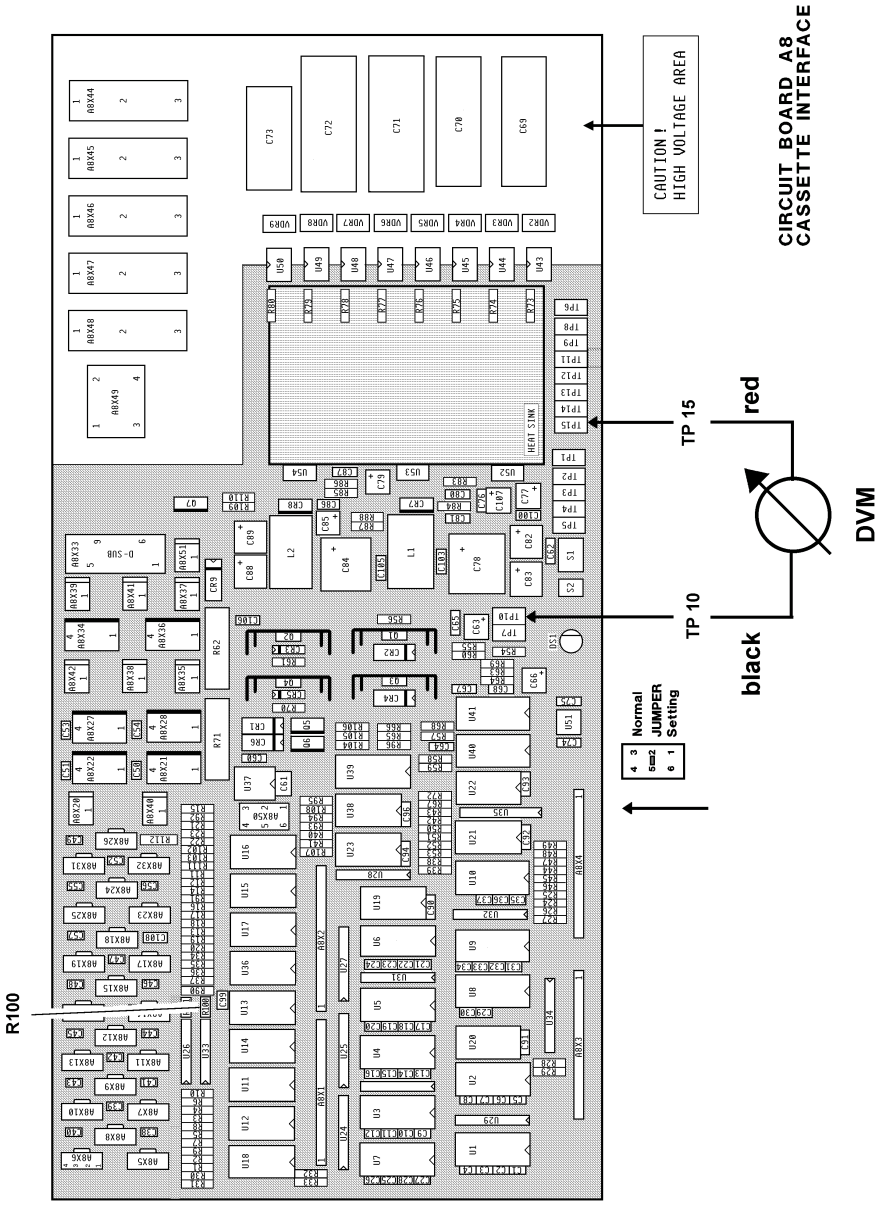

CIRCUIT BOARD A8
CASSETTE INTERFACE
CAUTION !
HIGH VOLTAGE AREA
TP 15
red
DVM
TP 10
black
Normal
JUMPER
Setting
R100

figure 1-10

Kodak AG
Hedelfinger Str. 54-60
70327 Stuttgart
Germany

Kodak, Min-R, X-Omat and X-Omatic are trademarks

CUSTOMER EQUIPMENT SERVICES KODAK AG STUTTGART